

REMARKS**I. Status of the Claims:**

Claims 1-13 are pending in the application.

By this Amendment, claims 1, 6 and 8 have been amended, and claims 14 and 15 has been newly added. Support for the newly added claims are provided in the specification on at least paragraphs [0041] and [0024]. No new matter has been introduced by this Amendment.

Upon entry of this Amendment, claims 1-15 would be pending.

II. Rejection Under 35 U.S.C. §112, First Paragraph

Claims 2-3 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. To address the Examiner's concerns, Applicants have amended base claim 1 to recite that the wound assembly has less slots than the field assembly has poles, and believes that these changes address the inconsistency between the base claim and dependent claims 2-3. Reconsideration and withdrawal of the rejection of these claims are respectfully requested.

III. Rejections Under 35 U.S.C. §§102 and 103:

Claims 1, 4-13 have been rejected under 35 U.S.C. §102(e) as being anticipated by Nakano et al. (U.S. Publication Application No. 2004/0155537 A1). Claims 2-3 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Nakano et al. Applicants respectfully traverse these rejections as follows. Prior to discussing Nakano in detail, Applicants wish to note that the reference Nakano often discusses poles in the context of "pole pairs" versus a pole, such as in Figs. 9.

A. Claims 1, 6 and 8:

Claim 1, as amended, is directed to an arrangement in which the wound assembly has less slots than the field assembly has poles to increase torque efficiency.

On the contrary, Nakano as relied upon by the Examiner shows in Figures 9 and 13 examples supporting the undesirability of selecting slot to pole (S/P) ratios below one in general in view of eddy currents. Instead, Nakano proposes the desirability of using slot to pole ratio greater than one (i.e., $S/P > 1$). See Nakano, para [0079]. As such, Nakano is silent as to employing less slots than poles (e.g., $S/P < 1$) to achieve particular motor characteristics/feature, e.g, increased torque efficiency. Accordingly, claim 1 and its dependent claims are believed to be patentably distinguishable over Nakano. For similar reasons, claims 6 and 8, as amended, and their dependent claims are believed to be distinguishable over the same.

i) Dependent Claims 2 and 3:

Dependent claims 2-3 (which depend from claim 1) are believed to be further distinguishable over Nakano. Claim 2 recites that the motor has 36 slots and 46 poles. Claim 3 recites that the motor has 30 slots and 38 poles.

The Examiner acknowledges that the claimed slots to poles number recited in claims 2 and 3 are not disclosed in Nakano, but asserts that one of ordinary skill in the art would modify the number of slots and poles in Nakano to provide a motor to operate with less noise. However, as discussed above, Nakano clearly “teaches away” from using slot to pole ratios that are less than one (e.g., $S/P < 1$) in light of eddy currents. As such, one of ordinary skill in the art in view of Nakano would not modify the number of slots and poles to the particular claimed slot to pole numbers which have a $S/L < 1$.

Accordingly, dependent claims 2-3 are believed to be further patentably distinguishable over the same.

B. Claim 5:

Independent claim 5 is directed to an arrangement in which the ratio of slots to poles is less than 0.75.

On the contrary, Nakano as relied upon by the Examiner shows in Fig. 9 ratios of slots to pole pairs (2P) relative to eddy current loss, the smallest ratio of which appears to be 48 slots to 32 pole pairs or 64 poles. Thus, Fig. 9 as well as Fig. 13 shows ratios of slots to poles that are equal to or greater than 0.75 (e.g., 48 slots/64 poles). However, Nakano does not disclose or suggest the ratio of slots to poles is less than 0.75. Further, Nakano teaches away from the use of the ratio of slots to poles that is less than one ($S/P < 1$) in general in view of eddy currents.

Accordingly, claim 5 is not anticipated or rendered obvious by Nakano and is believed to be patentably distinguishable over the same.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4503, Order No. 0403-4104.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4503, Order No. 0403-4104.

Respectfully submitted,
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